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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/445,990

12/16/99

LANGHANS

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020151

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MMC2/0131

EXAMINER

MENEFEE, J

ART UNIT

PAPER NUMBER

2881

DATE MAILED:

01/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/445,990

Applicant(s)

LANGHANS ET AL.

Examiner

James Menefee

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 3 and 5-9 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 1999 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Response to Amendment

In response to Preliminary Amendment A filed 12/16/99, the specification and claims 3, 5, and 6 have been amended, and claims 7-11 have been added. Claims 1-11 are pending.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to for the reasons given on enclosed Form PTO 948. Appropriate correction is required.

Claim Objections

Claims 6-9 are objected to because of the following informalities: The word --or-- should be added in line 2 of each claim before "Nd:glass". Appropriate correction is required.

Claims 3 and 5 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. Each of these claims describe an output mirror that is separate from the laser rod. However, claims 1 and 4 that these two claims depend from claim that the output mirror should be part of the

laser rod. A dependent claim must include all of the limitations of the base claim, therefore these claims are contradictory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art Safyurtlu (CA 1 164 990 A) in view of Oka.

Regarding claim 4, Safyurtlu discloses a resonator for solid-state lasers comprising a laser rod 12, a convex rear mirror 16 at one end of the rod, the face of this end of the rod being planar, with the face on the opposite end of the rod being semi-reflecting and thus forming an output mirror (Figure, p. 4 line 22 – p. 5 line 4). However, it is not disclosed that the end of the rod opposite the rear mirror should be convex. Oka discloses a resonator in which the rod 35 has a convex side 35a on the side opposite the rear mirror 34 (Figure 9, col. 10 line 45 – col. 11 line 22). It would be obvious to one skilled in the art to use this laser rod because it prevents the laser beam from being enlarged in diameter, as taught by Oka.

Regarding claims 1 and 2, the limitations are disclosed as in claim 4 except the planar side and convex side of the rod are now switched. Oka discloses that the rod 35 has one surface as a convex surface (col. 10 lines 52-53). Even though Figure 9 shows

the front surface as the one being convex, this statement provides motivation that the front surface may be planar and the rear convex. With this motivation, the rearrangement of parts is obvious for the same reasons provided above in the rejection of claim 4. See MPEP 2144.04

Claims 3, 5, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safyurtlu and Oka as applied to claims 1-2 and 4 above, and further in view of Richmond.

Regarding claims 5 and 11, Safyurtlu and Oka disclose all of the limitations of claims 1-2 and 4 but make no mention that the output mirror should be close to the laser rod, specifically within approximately 10 mm. Richmond discloses that the spacing between the output mirror and the rod can be changed (col. 4 lines 52-55). It would be obvious to one skilled in the art to change the spacing in order to control the divergence of the beam, as taught by Richmond. It is an obvious optimization to change the spacing specifically as the applicant claims.

Regarding claims 3 and 10, the limitations are disclosed as in claims 5 and 11 except the planar side and convex side of the rod are now switched. As discussed above, this is an obvious rearrangement of parts, therefore the rejection of these claims is the same as that of claims 5 and 11.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safyurtlu and Oka as applied to claims 1-2 and 4 above, and further in view of Kataoka.

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Safyurtlu and Oka disclose all of the limitations of claims 1-2 and 4 above, but do not mention the variety of laser rods which may be used. Kataoka teaches the use of any of the claimed lasers (col. 9 lines 42-53). It would be obvious to one skilled in the art to use any of those lasers because of their favorable wavelengths, as taught by Kataoka.


Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Safyurtlu, Oka, and Richmond as applied to claims 3, 5, and 10-11 above, and further in view of Kataoka. The rejection is the same as that of claims 6 and 8 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Arroyo can be reached on (703) 308-4782. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JM
January 25, 2001


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